STAY SAFE MN

COVID-19 Public Health Risk Indictors: Data Notes

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Minnesota successfully bought time to build needed treatment capacity and is now taking steps toward a new normal. As we take these steps, we will continue to follow the guidance of public health experts and make data-driven decisions. We will monitor the rate of new cases, testing, hospitalizations, and how the virus is spreading. If there are sudden increases or decreases in these data, we may need to "dial back" or put restrictions in place again to slow the spread of the virus.

Indicator and threshold summary

The indicator is a piece of data that may help tell us how the outbreak is changing. We watch these pieces of data over time to see if they are going up or down. The threshold is a point that has been selected to serve as a warning signal. If the indicator moves to the other side of the threshold, it may mean the outbreak is changing in a way that would require us to take some action to move the indicator back to the other side of the threshold. How the measures and thresholds were determined

The Minnesota Department of Health (MDH) primarily looked at ongoing surveillance of testing and case trends in Minnesota to develop these measures and thresholds. We also referred to federal guidelines and gating indicators from other states. The thresholds are not taken from or tested against the Minnesota COVID-19 model.

As the pandemic has changed over time, some of the thresholds may also need to be adjusted to better reflect risk. For example, in spring 2020 testing and laboratory supplies were limited, and therefore tests were reserved for certain high risk groups, like health care workers and long-term care residents. The thresholds for testing (100 weekly tests per 10,000 residents) and test positivity (15%) rates at that time reflected that scarcity. In November 2020, thresholds were updated to include "caution" and "high risk" levels. Updated thresholds are summarized in the table on page 3.

Data considerations and lag period

- As of June 5, 2020, all testing data are reported per test instead of per person, to account for changes in testing capacity and for people who are tested more than once over the course of the pandemic.
- As of July 3, 2020, the rate of new daily cases over a 7-day rolling average replaced case doubling time as an indicator of case growth.
- As of September 1, 2020, all case and testing data include PCR and antigen tests combined. For more information on antigen tests, please see the Situation Update for COVID-19 on the MDH website.

- Data about cases come from many sources, including case interviews, chart abstractions, and hospital discharge information. Data may be added or updated as more information is gathered and the condition of cases changes (such as someone being admitted to the hospital), resulting in small changes in historical information. Data shown here are the most accurate for what is available at the time data are updated.
- Data are presented as "rolling averages" over the most recent 7 or 14 days. A rolling average, or a moving average, is a measure that is updated each day to reflect the average of that day and the 6 or 13 days that came before. We use this type of average to smooth out expected day-to-day variation that may be due to things not related to the virus spread, like fewer test specimens collected over weekends.
- Indicators on this dashboard exclude the data lag period. The data lag period is time where information continues to be received or collected; during this time that data are incomplete. Not including this time period allows us to provide the most complete information possible.
    - Laboratory testing data have a 7-day lag period. This is because it can take about 7 days from when a laboratory sample (specimen) is collected until the results come back and it is reported to MDH. This lag period was previously 5 days, but was extended due to some longer periods between specimen collection and report data.
    - Case data have a 7-day lag period. This is because it can take about 7 days for case interviews to be done to verify and collect necessary information. Community spread data do not include cases with undetermined source of exposure. This information is added to the database as interviews are completed.

Indicators	Thresholds	Why are we measuring this?
Test positivity rate (PCR and antigen tests combined)	Caution: Rate ≥ 5% on average over 7 days prior to lag period. High risk: Rate ≥ 10% average over 7 days prior to lag period. *Spring 2020 threshold: 15% on average over 7 days prior to lag period.*	The percent of tests that are positive can tell us about the spread of infections. When testing rates are stable or increasing and all symptomatic people can be tested, an increase in percentage of positive tests is an indicator of virus spread.
Tests per population (PCR and antigen tests combined)	Caution: Fewer than 100 tests per 10,000 residents over 7 days prior to lag period. High risk: Fewer than 50 tests per 10,000 residents over 7 days prior to lag period. *Threshold through June 2021: Fewer than 100 tests per 10,000 residents over 7 days prior to lag period (high risk); fewer than 200 tests per 10,000 residents over 7 days prior to lag period (caution).* *Spring 2020 threshold: Fewer than 100 tests per 10,000 residents over 7 days prior to lag period.*	As testing capacity expands, increasing testing rates help show that access is also expanding. Increased testing is a key part of tracking virus spread. Tracking the testing rate per population allows for meaningful comparisons between areas with different population densities. *To reflect new testing recommendations based on vaccination status, the thresholds were lowered in July 2021, at which time over 50% of Minnesotans were vaccinated.*
Rate of new cases (confirmed or probable) per population	Caution: Number of new cases per 100,000 population above 5 over 7 days prior to lag period. High risk: Number of new cases per 100,000 population above 10 over 7 days prior to lag period. *Spring 2020 threshold: Number of new cases per 100,000 population above 5 over 7 days prior to lag period.*	Case growth rate per population can show increased disease spread. Tracking the case growth rate per population allows for meaningful comparisons between areas with different population densities. Sufficient testing is important for identifying new cases. Cases include confirmed cases (PCR positive) and probable cases (antigen positive).

Hospitalization rate*	Caution: More than 4 new COVID-confirmed hospitalizations, including ICU, per 100,000 on average over 7 days prior to lag period. High Risk: More than 8 new COVID-confirmed hospitalizations, including ICU, per 100,000 on average over 7 days prior to lag period. *Spring 2020 threshold: More than 4 new COVID-confirmed hospitalizations, including ICU, per 100,000 on average over 7 days prior to lag period.*	Tracking the rate of hospitalizations per population allows for meaningful comparisons between areas with different population densities. The rate of 4 per 100,000 equates to 220 admissions per week. If that rate continued, it could overwhelm hospital capacity.

* Note that hospitalizations include all COVID-confirmed or COVID-probable Minnesota residents, even if they are hospitalized outside of Minnesota.

Note: In July 2021, the "Community spread without known contacts" metric was retired. This metric no longer contributes to understanding of the pandemic. The original metric was intended to examine how much spread was happening in the community where we could not identify a source after we accounted for common likely sources of transmission. With limited cases in health care workers, congregate settings, and community outbreaks along with vaccination, most transmission is now happening in the community. At the same time, fewer cases were completing or providing complete information in case interviews.

Next steps

Over the coming weeks and months, we will refine and add to these measures as needed to best reflect the science and on-the-ground trajectory of the epidemic in Minnesota. Other data we are monitoring include: COVID-related death rates, cases among health care workers, trends in COVID-like illness, ICU admissions, and other important indicators of a strong and sustainable response.

Contact information

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